

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

59.9
N815

R E P O R T

* - - *

of the

SEVENTEENTH NORTHEASTERN CORN IMPROVEMENT CONFERENCE

New York City
February 23-24, 1962

U. S. DEPT. OF AGRICULTURE
NATIONAL AGRICULTURAL LIBRARY

OCT 23 1963

CURRENT SERIAL RECORDS

Reported by
G. F. Sprague, Secretary

Crops Research Division
Agricultural Research Service
UNITED STATES DEPARTMENT OF AGRICULTURE
CR-25-62 March 1962



TABLE OF CONTENTS

	Page
MORNING SESSION, February 23 -----	2
Appointment of Nominating Committee -----	2
Discussion topics	
1. Barren vs. normal corn for silage -----	2
2. Drilled corn for silage -----	6
3. Prolific corn -----	9
AFTERNOON SESSION, February 23 -----	11
4. Mexican corn in the New York program -----	11
MORNING SESSION, February 24 -----	12
<u>Committee Reports</u>	
Report of the Committee on 100-200 Maturity -----	12
" " " 300-500 " -----	13
" " " 600-700 " -----	13
" " " 800-900 " -----	16
" " " Registration of NE Hybrids ----	16
" " " Stalk Rot -----	28
" " " Pollinating Supplies -----	37
" " " Inbred Release Policy -----	37
" " " Preservation of Open-Pollinated	
Varieties -----	37
" " " Nomenclature of Cytoplasmic	
Sterility -----	37
" " " Corn Silage Research -----	38
OFFICERS AND COMMITTEE MEMBERS, 1962-63 -----	41
ROSTER OF ATTENDANCE -----	43

REPORT OF THE SEVENTEENTH NORTHEASTERN CORN IMPROVEMENT CONFERENCE

New York City, New York
February 23 and 24, 1962

MORNING SESSION, February 23

The meeting of the Northeastern Corn Improvement Conference was called to order by Chairman H. T. Stinson at 9:10 a. m. This was followed by introductions and a brief resume by Administrative Advisor H. R. Fortmann of the organization of the Congress of Experiment Station Services.

The first order of business was the appointment of a Nominating Committee consisting of M. W. Johnson, chairman; R. G. Rothgeb and H. L. Everett. This was followed by a series of discussion topics, each topic being introduced by a designated leader. The reports of these discussion leaders follow.

Barren vs. Normal Corn for Silage - J. C. Anderson

In some areas of New Jersey bird damage is severe ranging up to a loss of 60 percent of the potential grain yield. An experiment was conducted in 1961 to determine whether the loss of total dry matter could be minimized by the use of barren corn. The experimental design involved row spacings of 7 feet to minimize light effects. Plant spacing within the row was 2 plants per 15 inch of row. Barrenness was induced by capping earshoots. Normal and barren rows were paired; the pairs were randomly distributed. WF9 x Oh43 came into mid-silk exactly 1 week before J47 x C103. All harvests and all refractometer readings were made between 8:00 and 9:00 a.m. at each harvest. The data are presented in table 1.

The dry matter reduction due to barrenness averages about 25 percent. The higher percent TDN in the ears as against the slower will render this loss somewhat greater in TDN. Dry matter increases relatively little after 42 days from mid-silk for either normal or barren plants. Barren plants remained green up to 70 days after mid-silk. Sucrose equivalent reached a maximum at 56 days after mid-silk for barren plants and 14 to 28 days for normal. In a slow drying, normal-eared hybrid like J47 x C103 a secondary peak of sucrose equivalent appeared at 70 days past mid-silk indicating continued photosynthesis after the ear has matured. The plants of WF9 x Oh43 died after maturation of the ear.

Additional data bearing on this topic were supplied by H. M. Yegian and are presented in tables 2 and 3.

Table 1. Comparisons of Barren vs. Normal Corn Grown for Silage in 1961.

Days past mid- silk	NORMAL					BARREN					Change in D.M. yield due to barrenness	
	Ears ¹		Stover		Sucrose ² equiv. %	Ears		Stover		Ears %		Stover %
	D.M. plot lbs.	% D.M.	D.M. plot lbs.	% D.M.		D.M. plot lbs.	% D.M.	D.M. plot lbs.	% D.M.			
J47 x C103												
0	0.4	7.3	6.2	11.4	6.7	0.1	7.0	6.5	12.0	7.3		
14	2.3	11.2	7.7	14.0	9.2	1.8	10.8	8.2	15.3	9.7	+ 6	
28	9.8	30.7	7.1	15.7	9.5	4.2	20.5	6.6	20.5	14.3	- 7	
42	19.6	24.5	3.8	15.3	8.6	4.6	25.5	11.5	24.7	18.0	+203	
56	17.4	54.2	4.0	25.7	7.7	4.1	34.3	11.3	30.5	22.3	+183	
70	17.3	61.9	4.2	39.4	9.7	4.8	42.1	10.2	33.5	19.4	+143	
WF9 x Oh 43												
0	1.8	6.0	3.4	11.2	--	0.1	6.1	3.7	11.0	----		
14	1.7	12.0	4.9	15.6	8.3	1.8	10.8	5.1	16.0	8.7	+ 4	
28	4.8	26.7	3.7	17.3	9.3	2.1	13.2	7.4	20.2	13.0	+100	
42	10.9	39.9	2.3	17.0	5.0	3.2	17.5	6.3	22.5	14.3	+174	
56	9.4	70.2	3.3	50.0	---	3.8	23.8	6.0	25.5	16.7	+ 82	
70	9.0	82.1	3.0	69.7	---	4.7	37.7	6.8	32.9	17.4	+127	

¹Includes ear, husk and shank.

2. Refractometer reading of sap from ear node.

Data collected and summarized by: J. C. Anderson - C. R. Funk - B. B. Taylor

Table 2. Chemical analysis and digestibility, by artificial rumen method of parts of the corn plants from two varieties.

Variety and Plant Parts	Proportion of		Artificial Rumen Method					Morrison Feed & Feeding		
	Dry Matter Weight Grams	Total Parts pct.	Protein pct.	Fiber pct.	Total Ash pct.	Water Soluble Matter pct.	Digestible Dry Matter pct.	Net Energy Therms Estimate	Net Energy	Total Digestible Nutrients
<u>Pa 602 Dwarf</u>										
Grain	183.0	46.97	11.06	2.87	1.49	14.25	36.70	44.6	94.2	94.2
Cob	46.3	11.88	2.59	40.61	1.04	7.67	11.79	26.3		50.6
Leaves & Husks	94.1	24.15	5.78	35.13	7.15	22.30	32.29	41.3		60.1
Stalk & Shank	66.2	16.99	4.69	27.40	7.08	45.73	49.80	44.2		49.2
Stover	206.6	53.05	4.72	33.88	5.76	26.53	33.31	42.0	29.8	57.3
<u>NE 420</u>										
Grain	200.8	51.67	12.18	3.07	1.69	14.30	36.76	44.6	94.2	94.2
Cob	34.4	8.85	2.07	39.61	0.87	6.53	11.61	26.1		50.6
Leaves & Husks	68.6	17.65	7.69	34.36	8.43	23.19	34.36	42.8		60.1
Stalk & Shank	84.8	21.82	7.95	31.28	6.28	41.53	46.97	52.2		49.2
Stover	187.8	48.33	6.78	33.93	6.07	28.42	35.89	43.9	29.8	57.3

The digestibility of the stalk and shank by the artificial rumen method is quite high compared to other parts of the corn plant. From the data there appears to be a positive correlation between the percent of water soluble material and digestibility of dry matter. There also appears to be a definite negative correlation between fiber content and digestibility of dry matter. The indicated low values of water soluble material and also digestibility of dry matter for the grain seem to indicate serious limitations of the artificial rumen method for determining the digestibility of grain.

Table 3. The Effect of Allowing or Preventing Grain Development by Corn Plant - on Yield, on Digestible Dry Matter, on Per Cent and Total Amount of Protein, and on Estimated Net Energy Therm.

Variety Sampled	Av. Dry Wt. per Plant in Grams	Av. Dry Wt. of grain in Grams	Av. Stover Wt. in Grams	Protein in Stover pct.	D.M.D. Art. Rumen pct.	Estimated* Protein per Gram Fodder in Grams	Estimated Net Energy Therms per Gram Fodder in Grams
H.S.50 with 100% grain	353	137	216	3.19	32.11	0.059	0.618
H.S.50 with 25% grain	206	35	171	6.10	40.64	0.068	0.554
Pa54 with grain	202	90	112	5.17	35.62	0.074	0.663
Pa54 no grain	176	00	176	12.63	54.97	0.126	0.580
WF9-2 with grain	264	118	146	7.24	34.46	0.085	0.658
WF9-2 no grain	142	00	142	11.50	49.77	0.115	0.542
* 8.6 per cent protein in #2 corn grain with 15 percent moisture. Morrison, Feeds and Feeding.							
+ 80.1 per cent net therm energy in #2 corn grain with 15 percent moisture. Morrison, Feeds and Feeding.							

Remarks:

Corn plants with grain will, on the average, produce a greater amount of total dry matter, more total protein, and greater total estimated energy in therms per plant than corn plants in which grain formation has been prevented. However, where grain development has been prevented these plants will, on the average, have greater dry matter digestibility by the artificial rumen method and higher per cent protein in the stover.

In terms of silage per acre, 20 tons of regular silage with 65 therms of net energy per 100 pounds of dry matter will equal to 23.2 tons of silage from sterile corn with no grain at 56 therms of net energy.

Drilled Corn for Silage - David L. Matthews

Drilled corn harvested as green chop can compete favorably with presently recommended summer annual crops, including new hybrid forage sorghums. Corn will not, however, produce its maximum digestible nutrient potential (for the entire growing season) when managed in this way. The conventional practice of moderate plant populations grown in rows and harvested at the early dent stage of ear development yields the most high quality corn silage. No research has yet demonstrated conclusively that other crops, or different corn management practices, will consistently produce more digestible nutrients than ensilage from conventionally grown corn.

Maximum yields of dry matter are produced when the plant population completely covers the ground with functional green leaves. While it would require nearly 40 million seedling corn plants to cover an acre, only 30,000 mature plants achieve this same result.

If corn is to be chopped green 5 or 6 weeks after emergence, it stands to reason that more plants are required per acre to achieve maximum yield than would be required if the crop is allowed to grow to maturity. There is evidence to show that up to 300,000 plants per acre are desirable for harvest at 5-6 weeks; as few as 50,000 plants for harvest at 9-10 weeks.

Drilled corn must be harvested before flowering. Once tassels emerge, drilled plantings become very susceptible to lodging. Only rarely is lodging a problem before this.

The value of the corn plant, managed as a summer annual has been demonstrated by many. The practice is being used on Northeastern farms. The need is for the development of improved methods of planting and harvest; the continued use of corn for this purpose depends largely upon the satisfactory solution of these two very real problems of practical application.

Additional data bearing on this topic were supplied by H. M. Yegian and are presented in tables 4 and 5.

Table 4. CHEMICAL ANALYSIS AND DIGESTIBILITY BY ARTIFICIAL RUMEN METHOD
FOR CORN AND SUDANGRASS AT VARIOUS STAGES OF MATURITY. (1961 crop)

Artificial Rumen						
Variety and Date Planted	Date Harvested	Planting Method	No. of Days to Grow	Method		
				Digestible Dry Matter pct.	Protein pct.	Estimated Therm of Net Energy
<u>Oh M15</u>						
May 26	Sept. 26	In Rows	123	34.57	7.10	43.0
" "	" "	Solid	123	37.38	7.07	45.0
June 26	" "	In Rows	92	40.04	9.00	47.1
" "	" "	Solid	92	40.93	7.38	47.7
May 26	Aug. 7	In Rows	72	49.47	11.15	54.0
" "	" "	Solid	72	54.64	13.29	57.8
June 26	Sept. 8	In Rows	74	53.69	10.48	57.1
" "	" "	Solid	74	49.26	6.10	53.9
<u>Piper Sudangrass</u>						
May 26	Sept. 28	In Rows	125	35.23	8.08	43.5
" "	" "	Solid	125	33.20	7.94	42.0
June 26	Sept. 26	In Rows	92	45.74	9.44	51.3
" "	" "	Solid	92	41.74	12.11	48.3
May 26	Aug. 7	In Rows	73	46.06	11.67	51.5
" "	" "	Solid	73	46.31	10.45	51.7
June 26	Sept. 8	In Rows	74	42.62	9.43	49.0
" "	" "	Solid	74	47.69	11.62	52.7
<u>Sudangrass Aftermath</u>						
May 26 - Aug. 7 - Sept. 28	Sept. 28	In Rows	51	48.87	11.19	53.6
" "	" "	Solid	51	45.90	7.48	51.4
June 26 - Sept. 8 - Sept. 28	Sept. 28	In Rows	20	57.02	19.42	59.5
" "	" "	Solid	20	58.81	18.54	60.9

Table 5. OH M15 AND PIPER SUDANGRASS YIELD TEST
YIELD PER ACRE DRY MATTER EXPRESSED IN 100 POUNDS
1961 DATA BASED ON ONE PLOT* (PLOT SIZE 9 X 25 FEET)

Crops	10 Weeks Growth						Full Season's Growth								
	Date Planted	Harvested	No. of Days to Harvest	Distance Between Rows			DM/A	Moisture Pct.	9 Inches	Distance Between Rows			DM/A	Moisture Pct.	9 Inches
				36 Inches	Moisture	Pct.				36 Inches	Moisture	Pct.			
Ohio M 15	May 17	July 26	70	88.9	64	112	88.2	64.2	110	64.7	197				
	" 26	Aug. 7	73	87.5	75	123	86.6	65.8	124	64.3	201				
	June 6	" 18	73	85.7	65	106	85.8	69.4	98	71.8	188				
	" 16	" 28	73	83.3	72	108	86.2	74.5	96	77.3	175				
	" 26	Sept. 8	74	82.6	78	142	83.8	73.9	89	80.0	163				
	July 6	" 19	75	83.6	63	134	81.8	83.2	74	80.6	159				
Piper Sudan- grass	May 17	July 26	70	88.5	59	76	87.8	72.7	92	74.6	36				
	" 26	Aug. 7	73	84.9	61	78	84.6	72.4	89	73.6	90				
	June 6	" 18	73	81.5	60	79	83.6	78.0	80	75.8	86				
	" 16	" 28	73	81.8	58	68	85.5	76.0	82	77.4	83				
	" 26	Sept. 8	74	79.9	51	71	81.9	77.3	76	80.5	75				
	July 6	" 19	75	75.6	56	69	78.8	78.2	75	81.2	75				
Sudan- grass After- math	1st Harvest	2nd Harvest													
	July 26 - Sept. 27	Aug. 7 - Sept. 27	63	77.3	53	49	79.1								
	Aug. 7 - Sept. 27	Aug. 18 - Sept. 28	51	82.4	52	50	82.5								
	Aug. 18 - Sept. 28	Aug. 28 - Sept. 28	41	85.9	26	30	85.6								
	Aug. 28 - Sept. 28	Sept. 8 - Sept. 28	32	87.1	17	14	85.3								
	Sept. 8 - Sept. 28	20	86.5	8	6	84.9									

* Too much reliance should not be placed on the yield data from one plot.

Prolific Corn - W. I. Thomas

Since some of the more prolific corns are popcorns, it was decided in this study to use 4 prolific popcorn strains and four dent lines which tend to be single eared. A diallel set of single crosses was made in 1960 and grown at two populations in 1961. In addition, several other prolific strains were crossed with non-tested inbred lines originating from Dr. C.C. Wernham's disease studies. These lines were generally non-prolific types. Five commercial double-crosses ranging from AES600 to AES900 in maturity were included.

In table 6 NP and P are used to designate non-prolific and prolific lines, respectively. The NP x P single crosses in the diallel set are subdivided according to the four non-prolific parents.

Increasing plant population resulted in a greater increase in yields with non-prolific types than with prolific types and resulted in a more marked decrease in the number of ears per plant in the prolific types. No barren plants were observed in the low plant population and only a few were observed in the higher plant population. However, these occurred only on the non-prolific type hybrids.

Data on prolificacy in this study is confounded with ear-bearing tillers. Most of the P x P crosses had some ear-bearing tillers and some of the prolific x non-prolific crosses had ear-bearing tillers.

The ability of the prolific lines to express this character varied with the strain and with the single-eared line upon which it was crossed. However, the average number of ears of the prolific x non-prolific type cross at the high population was near the mean but somewhat nearer the non-prolific x non-prolific type when planted at the lower plant population. These data are not in agreement with one investigation which suggested that the single-ear habit is dominant.

Table 6. Summary of performance of crosses involving prolific x non-prolific inbred lines.

	No. hybrids	Grain moisture %	Low population (10,000 plants/A.)			High population (16,500 plants/A.)			Increase or Decrease High population over Low Pop		
			Grain yield bu/A	Ears per 100 plants	Erect plants %	Grain yield bu/A	Ears per 100 plants	Erect plants %	Grain yield %	Ears per 100 plants %	Erect plants %
Diallel single crosses											
NP x NP	6	18.4	95.2	108	79	110.6	105	51	+16	- 4	-35
P x NP	4	15.4	94.6	218	83	95.1	141	57	+ 5	-35	-32
"	4	17.2	113.2	235	87	120.5	160	66	+ 6	-32	-24
"	4	18.0	83.7	178	76	95.7	142	43	+14	-20	-43
"	4	16.0	77.8	203	56	77.0	133	46	- 1	-34	-28
" (Ave.)	16	16.7	92.3	209	75	97.1	144	53	+ 5	-31	-30
P x P	6	15.2	41.5	428		46.7	223	32	+12	-48	-18
Misc. Crosses											
P x NP	11	19.5	94.7	209		99.8	151	48	+ 5	-28	-34
Comm. D.C.	5	19.4	88.5	115		112.2	108	68	+27	- 6	-15

The session ADJOURNED at 11:50 a. m.

The guest speaker at the noon luncheon was Professor Th. Dobzhansky of Columbia University who spoke on the topic: "Heterosis, Mutational and Balanced".

AFTERNOON SESSION, February 23

The meeting was reconvened at 1:45 p. m. and the discussion topics completed.

Mexican Corn in the New York Program - H.L. Everett

Corn first served man in Central America. Often, the most variation in a crop is found in the area of initial domestication. Corn is no exception. There is tremendous variability in the so-called races of maize found in Mexico, Central and South America. A majority of these exotic forms have been collected through the efforts of Dr. Edwin Wellhausen and colleagues supported by the Rockefeller Foundation and the National School of Agriculture at Chapingo, Mexico.

For most of the year 1961, the Cornell corn program was active at Chapingo. Many double, three-way, and single cross hybrids, adapted to New York State, were grown in Mexico; and crosses were made to many of the local collections. Names of Mexican races being of Aztec or Spanish origins sound unusual. It is to be hoped that such corn types may prove to be of unusual practical value in selections for disease resistance, enhanced yield ability, and other favorable morphological variants. A list of the crosses carried out and a brief indication of the possible gains to be made through the tapping of this exotic germ plasm is listed below.

Exotic Germ Plasm Project

<u>New York Adapted Hybrids</u>	<u>Crossed in all combina- tions to</u>	<u>Races of Maize (Mexico)</u>	<u>Potentially useful characters intro- duced by cross</u>
Single cross (Oh51A x B8) NY 3 x Id. D50		Oloton Pepitilla	Prolific tendency Shoepeg seed type, High elevation
NY 821 x W37A NY 821 x NY697		Jala Celaya	Long ear type Favorable yield capacity
MSW10 x MSA206		Conico Norteño	Short season

Cronell M3	Chapalote	Grain type, disease resist.
Cornell M4	Zapalote Chico	Thick husk, bird protection
Robson 315	Cacahuacintle	Kernel placement
Robson 320	Maiz Dulce	Sweet corn
Robson 350	Comiteco-Tuxpeno	Two-ear tend: dis. resist.
Funk G10	Chalqueño	Yield pot.-kernel depth multitillered
Pioneer 372	Chalco-Teosinte	Prolific nature, stand- ability

In addition, a large number of collections from the germ plasm bank in Mendellin, Colombia were classified and added to the Cornell materials. It is certain that the majority of plant types segregating from these crosses will be too late in maturity and ill adapted to the northern environment. Acute selection-screening, however, should result in unique additions to the inbred nurseries and, subsequently, to the improved hybrids produced for the New York program.

The session was ADJOURNED at 2:45 p. m. to permit meetings of the several standing committees.

MORNING SESSION, February 24

The meeting was called to order at 9:00 a. m. by Chairman H. T. Stinson who called for the reports of the standing committees.

REPORT OF THE COMMITTEE ON THE UNIFORM TESTS OF 100-200 MATURITY

A ten line diallel set of single crosses were made at Pennsylvania. The lines included were CO113, CO125, CO150, CO158, CO159, Pa32, Q163, A495, A509. One or two crosses may be short of seed since early crosses were unsuccessful in Florida. Cornell, Quebec, Ottawa and Pennsylvania indicated an interest in testing. Suggested check hybrids are NE144 and Pa215. Pennsylvania will distribute the single cross and check seed.

R. M. Bailey
R. I. Brawn
L. S. Donovan
H. L. Everett
W. I. Thomas, Chairman

REPORT OF THE COMMITTEE ON THE UNIFORM TESTS OF 300-500 MATURITY

An all-combination series was made up in Pennsylvania in 1961. Included were the following ten inbreds:

Conn. C153	Pa. 409
ES55-157	Pa. B8B
Pa. 55	W37A
NY D410	W182D
Pa. 41	NY 821

Enough seed of the 45 single crosses is available for 15 replicated blocks. These have been allotted according to requests as follows:

Pennsylvania	6 reps.
New York	6 reps.
Massachusetts	3 reps.

It is planned to produce a top-cross or all-combination test in 1962. To date, there have been 6 inbreds nominated for inclusion:

Pa. 37	Oh 26
Pa. 423	ES191-71
NY D16	Pa. 404

It is anticipated that 8-10 additional entries will be submitted from leading numbers in a top-cross test grown in Pennsylvania last summer.

G. W. Gorsline
C. E. Manchester
H. M. Yegian
H. L. Everett, Chairman

REPORT OF THE COMMITTEE ON THE UNIFORM TESTS OF 600-700 MATURITY

A ten line 45 entry all-possible single cross experiment was grown by Connecticut, the Cooperative Corn Research Project, Maryland, New Jersey, and Pennsylvania. The combined data are presented in table 7. The mean contribution of the inbred parents is presented in table 8. Attention should be drawn to the fact that Connecticut noted off-type plants (inbreds) in their plots of C103 x Pa 884P; Pennsylvania noted the same in their plots of Pa.83 x Pa. 881P, and New Jersey concluded that the long husk coverage of C103 x 603E interfered with normal pollination.

The 630 possible double-crosses were predicted for the characters, grain yield, grain moisture at harvest, percent erect plants, relative silking date (days later than earliest single cross), percent root lodged, and percent stalks broken. It is noted that many of higher yielding predictions seemed to be of 800 maturity.

The data for the predicted double-crosses are presented in table 9. The coded rather than the actual pedigrees are listed. The numbers of the coded lines are as follows:

- | | |
|------------|-------------|
| 1. C103 | 6. Pa. 884P |
| 2. C114 | 7. J48 |
| 3. 601E | 8. Oh51A |
| 4. 603E | 9. Oh43 |
| 5. Pa.881P | 10. Pa.83 |

The pedigree 1, 2, 3, 4 then would become (C103 x C114)x(601E x 603E).

The table, as presented, is a direct reproduction of the IBM listings and no decimal points are indicated. One decimal point is involved for each of the data columns.

This committee does not recommend the cooperative making and testing of double-cross hybrids predicted from the data presented. It is hoped that members will make full and appropriate use of the data and predictions in their programs.

The 600-700 NECIC committee invites inbred nomination by numbers for crossing in 1962 into a uniform top-cross or single-cross group for testing in 1963. It is contemplated that nominated lines will have previously undergone screening by the nominating member. If ten to thirteen lines are nominated, this program would result in single-cross tests; if many more are nominated, a top-cross group would be evaluated first.

The committee wishes to thank cooperating members for their work during the past year.

J. G. Buchert
H. T. Stinson
G. W. Gorsline, Chairman

Table 7. Summary of performance of 45 single crosses (600-700 maturity) grown at 5 locations in 1961.

Pedigree	Mois- ture in	Yield	Erect plants %	Leaf blight score	Days to silk ^{1/}	Lodging	
	grain %	bu. per acre				Root %	Stalk %
603E X PA 83	18.6	97.3	84.9	4.3	3.4	9.2	9.8
601E X 603E	19.0	98.2	54.0	5.1	2.7	20.5	28.2
603E X OH 51A	19.0	95.2	68.6	5.7	0.3	18.0	18.8
601E X OH 51A	19.2	105.0	44.4	5.7	1.8	5.8	38.8
PA 881P X OH 51A	19.7	114.2	60.7	5.9	1.0	10.0	19.2
OH 51A X PA 83	20.2	116.7	60.3	5.2	2.2	10.2	9.8
PA 884P X OH 51A	20.5	119.3	82.5	5.5	2.8	24.5	15.5
OH 51A X OH 43	20.8	114.1	68.3	4.5	0.0	3.2	18.2
C 114 X OH 51A	20.8	107.4	61.8	4.1	1.5	0.8	34.5
PA 881P X PA 83	20.8	80.1*	58.6	5.1	4.1	7.2	7.5
C 114 X 603E	21.2	92.0	74.6	4.3	2.5	27.5	13.5
603E X PA 881P	21.3	102.8	78.4	5.4	2.9	9.0	8.2
601E X PA 884P	21.5	114.1	57.2	4.3	5.7	39.5	21.0
603E X PA 884P	21.7	109.9	82.8	3.4	5.9	18.0	4.0
601E X PA 881P	21.8	109.5	48.6	5.1	5.2	28.5	32.5
601E X OH 43	21.9	128.2	60.0	5.3	3.5	12.5	24.2
601E X PA 83	21.9	123.0	43.4	5.1	5.0	23.2	40.5
603E X OH 43	21.9	101.5	82.2	3.8	0.7	1.0	4.2
C 103 X 603E	22.0	84.0*	99.0	5.2	4.9	3.5	3.5
603E X J 48	22.2	116.7	76.9	4.2	0.4	14.2	9.8
C 114 X 601E	22.3	97.1	38.0	6.1	3.8	8.2	53.2
PA 881P X OH 43	22.4	132.1	70.1	3.9	2.7	5.0	26.8
PA 884P X PA 83	22.7	139.0	84.8	3.9	5.7	28.5	16.0
C 103 X OH 51A	22.8	117.3	62.8	3.7	4.1	8.5	23.0
PA 881P X PA 884P	22.9	129.2	71.7	3.6	5.5	26.8	16.8
J 48 X OH 51A	23.2	121.6	78.6	4.0	0.4	28.8	11.5
C 114 X PA 881P	23.2	107.2	70.2	4.7	3.7	27.0	19.5
PA 884P X J 48	23.6	132.5	79.9	3.3	3.0	44.2	4.8
C 114 X PA 83	23.6	110.5	65.0	3.9	5.5	17.5	21.8
C 103 X 601E	23.7	111.1	32.4	4.9	7.7	5.5	48.8
C 114 X OH 43	24.1	113.9	67.7	3.6	3.3	11.8	11.8
PA 884P X OH 43	24.2	151.4	89.1	3.0	4.9	22.5	5.0
OH 43 X PA 83	24.2	126.0	81.0	3.2	6.6	3.5	5.2
601E X J 48	24.2	121.3	48.3	4.4	3.3	35.0	35.0
C 114 X PA 884P	24.3	119.5	73.0	2.7	6.9	37.5	12.2
J 48 X PA 83	25.6	133.2	46.7	4.6	2.4	29.2	23.5
C 103 X PA 83	25.6	129.6	87.4	2.9	8.2	12.0	8.2
C 103 X PA 884P	25.6	103.1*	83.7	3.0	8.5	29.8	8.0
PA 881P X J 48	25.8	119.4	49.9	4.2	2.3	28.2	29.2
C 114 X J 48	26.3	118.7	78.0	3.5	2.2	23.0	16.2
C 103 X OH 43	27.0	134.7	79.4	2.2	7.2	7.0	10.2
J 48 X OH 43	27.1	142.3	61.9	3.4	1.9	15.8	14.8
C 103 X PA 881P	27.1	119.8	78.8	2.7	7.4	3.0	10.2
C 103 X C 114	27.1	115.8	76.9	3.1	6.8	11.5	22.2
C 103 X J 48	27.3	136.6	66.2	2.3	5.5	8.5	10.5

~~AVERAGE~~

* Note report

^{1/} Days later than Oh51A x Oh43

Table 8. The mean performance of the 600-700 maturity single crosses averaged over the 10 parental lines.

	Grain moisture at harvest	Grain yield	Percent erect plants	Relative blight score (1= best)
Oh51A	20.7	112.3	65.3	4.8
603E	20.8	100.8	77.9	4.6
601E	21.7	111.9	47.4	5.1
Pa.83	22.6	117.3	68.0	4.2
Pa.881P	22.8	112.7	65.2	4.5
Pa.884P	23.0	124.2	78.3	3.4
C114	23.6	109.1	67.2	4.0
Oh43	23.7	127.1	73.3	3.7
J 48	25.3	126.9	65.2	3.8
C103	25.4	116.9	74.1	3.3

REPORT OF THE COMMITTEE ON UNIFORM TESTS OF 800-900 MATURITY

A series of 85 single-crosses were produced in 1961 for testing in 1962. These included a diallel series of 10 representing the 5 inbreds chosen as testers and 75 singles representing combinations of 15 lines crossed with each of the 5 testers. Connecticut 870 will be used as a check. Early planting and harvesting are urged to permit prediction of double-crosses and the production of superior predictions in the Florida nursery.

R. G. Rothgeb
W. I. Thomas
J. C. Anderson, Chairman

REPORT OF THE COMMITTEE ON THE REGISTRATION OF N.E. HYBRIDS

This committee reports that no hybrids were submitted for N.E. Registration during the last year. Attention is called to general requirements

Table 9. Performance of 630 double-cross hybrids predicted from the 1961 uniform test of single-crosses of the 600-700 maturity group.

	Pedigree				Mois- ture in	Acre	Erect	Leaf	Days Root	Lodg-
					grain %	yield bu.	plants %	blight score	to No.	
61:001	1	2	3	4	223	960	610	51	46	111
002	1	2	3	5	240	1088	548	46	56	109
003	1	2	3	6	239	1077	567	41	67	202
004	1	2	3	7	249	1158	536	42	48	113
005	1	2	3	8	224	1082	487	47	42	57
006	1	2	3	9	242	1142	543	42	55	81
007	1	2	3	10	238	1120	557	44	63	108
008	1	2	4	5	233	1007	806	42	45	152
009	1	2	4	6	232	996	825	38	56	245
61:010	1	2	4	7	242	1078	794	38	37	156
011	1	2	4	8	217	1001	745	43	32	100
012	1	2	4	9	235	1061	801	38	44	124
013	1	2	4	10	231	1040	815	40	52	151
014	1	2	5	6	250	1124	764	32	66	243
015	1	2	5	7	259	1205	733	33	47	153
016	1	2	5	8	234	1129	684	38	41	98
017	1	2	5	9	253	1189	740	33	54	122
018	1	2	5	10	248	1167	753	35	62	148
019	1	2	6	7	258	1194	752	28	57	247
61:020	1	2	6	8	233	1118	703	33	52	191
021	1	2	6	9	252	1178	759	28	64	215
022	1	2	6	10	247	1156	772	31	72	242
023	1	2	7	8	243	1200	672	34	33	102
024	1	2	7	9	261	1259	728	29	45	125
025	1	2	7	10	257	1238	741	31	53	152
026	1	2	8	9	236	1183	679	34	40	70
027	1	2	8	10	232	1162	692	36	48	97
028	1	2	9	10	250	1221	748	31	60	120
029	1	3	2	4	226	987	669	48	45	109
61:030	1	3	2	5	245	1105	605	42	58	128
031	1	3	2	6	241	1075	639	41	62	222
032	1	3	2	7	252	1177	573	39	48	158
033	1	3	2	8	228	1088	555	46	41	85
034	1	3	2	9	245	1189	635	41	53	98
035	1	3	2	10	242	1163	614	43	59	137
036	1	3	4	5	224	1028	701	45	50	138
037	1	3	4	6	220	998	734	44	54	233
038	1	3	4	7	231	1100	668	42	41	168
039	1	3	4	8	207	1011	650	49	33	95
61:040	1	3	4	9	224	1112	731	44	45	108
041	1	3	4	10	221	1087	709	45	52	148
042	1	3	5	6	240	1116	670	37	67	252
043	1	3	5	7	251	1218	604	36	53	187
044	1	3	5	8	227	1129	586	43	46	114
045	1	3	5	9	244	1230	667	38	58	127
046	1	3	5	10	241	1204	645	39	64	166
047	1	3	6	7	246	1187	638	35	57	282
048	1	3	6	8	222	1098	620	41	50	209
049	1	3	6	9	240	1200	700	37	62	222
61:050	1	3	6	10	236	1174	679	38	68	261
051	1	3	7	8	233	1200	554	40	36	144
052	1	3	7	9	251	1302	634	35	48	157
053	1	3	7	10	247	1276	613	36	55	196
054	1	3	8	9	227	1213	616	42	41	84
055	1	3	8	10	223	1187	595	43	47	123
056	1	3	9	10	241	1288	675	38	59	136
057	1	4	2	3	227	1042	594	43	48	162
058	1	4	2	5	241	1076	771	38	48	127

Table 9. (cont'd.)

Pedigree				Mois-	Acre	Erect	Leaf	Days	Root	
				ture in grain						yield
				%	bu.	%	score	No.	%	
61:059	1	4	2	6	239	1052	795	34	58	217
	1	4	2	7	244	1152	736	34	37	154
	1	4	2	8	225	1050	707	42	33	163
	1	4	2	9	243	1110	782	33	42	117
	1	4	2	10	231	1086	809	36	51	150
	1	4	3	5	227	1079	609	45	51	95
	1	4	3	6	225	1055	632	41	62	184
	1	4	3	7	230	1156	573	41	40	121
	1	4	3	8	211	1054	544	48	37	131
	1	4	3	9	229	1113	620	40	45	85
61:070	1	4	3	10	217	1090	646	43	55	118
	1	4	5	6	239	1089	809	36	61	149
	1	4	5	7	244	1189	750	36	40	86
	1	4	5	8	225	1087	721	43	36	96
	1	4	5	9	243	1147	797	35	45	50
	1	4	5	10	231	1123	823	38	54	83
	1	4	6	7	242	1165	774	32	50	176
	1	4	6	8	222	1063	744	39	47	185
	1	4	6	9	240	1123	820	31	55	139
	1	4	6	10	228	1099	847	34	65	172
61:080	1	4	7	8	228	1164	686	39	25	123
	1	4	7	9	246	1223	761	31	34	76
	1	4	7	10	234	1200	788	34	43	109
	1	4	8	9	226	1121	732	38	30	86
	1	4	8	10	215	1098	759	41	40	119
	1	4	9	10	232	1157	834	33	48	73
	1	5	2	3	239	1109	570	44	58	181
	1	5	2	4	234	1024	811	46	45	127
	1	5	2	6	247	1138	756	36	61	237
	1	5	2	7	258	1197	658	35	45	188
61:090	1	5	2	8	232	1136	676	43	39	142
	1	5	2	9	249	1224	741	34	51	126
	1	5	2	10	241	1081	732	39	57	144
	1	5	3	4	222	1018	646	51	51	116
	1	5	3	6	235	1132	591	41	67	226
	1	5	3	7	246	1191	492	41	51	176
	1	5	3	8	220	1130	511	49	45	131
	1	5	3	9	237	1218	576	40	57	115
	1	5	3	10	229	1075	567	45	63	133
	1	5	4	6	229	1047	832	43	54	172
61:100	1	5	4	7	241	1107	733	42	39	123
	1	5	4	8	214	1045	752	50	32	77
	1	5	4	9	231	1134	817	41	44	61
	1	5	4	10	224	991	808	46	50	79
	1	5	6	7	254	1220	678	32	54	233
	1	5	6	8	227	1159	697	40	47	187
	1	5	6	9	244	1247	762	31	59	171
	1	5	6	10	237	1105	753	36	65	189
	1	5	7	8	239	1218	599	40	32	138
	1	5	7	9	256	1307	664	31	44	121
61:110	1	5	7	10	248	1164	655	36	50	139
	1	5	8	9	229	1245	682	39	37	76
	1	5	8	10	222	1103	673	44	43	94
	1	5	9	10	239	1191	738	35	55	78
	1	6	2	3	241	1151	598	37	67	235
	1	6	2	4	237	1073	829	36	61	176
	1	6	2	5	253	1210	751	30	66	197
	1	6	2	7	255	1261	740	28	55	254
	1	6	2	8	236	1179	738	32	51	205
	1	6	2	9	256	1303	796	27	64	196

Table 9. (cont'd.)

Pedigree				Mois- ture		Acre yield	Erect plants	Leaf blight	Days to silk	Root- Lodg- ing
				in grain	%					
				%	bu.	%	score	No.	%	
61:119	1	6	2	10	249	1259	805	31	69	223
120	1	6	3	4	222	1047	678	44	60	166
121	1	6	3	5	238	1185	600	38	65	187
122	1	6	3	7	240	1235	589	37	54	244
123	1	6	3	8	221	1154	587	41	50	195
124	1	6	3	9	241	1278	645	36	63	186
125	1	6	3	10	233	1234	654	40	68	213
126	1	6	4	5	234	1107	830	37	59	128
127	1	6	4	7	236	1157	819	35	48	185
128	1	6	4	8	217	1076	817	39	44	136
129	1	6	4	9	237	1200	875	34	57	127
61:130	1	6	4	10	230	1156	885	38	61	155
131	1	6	5	7	252	1295	741	29	53	206
132	1	6	5	8	233	1214	739	33	49	157
133	1	6	5	9	253	1337	797	28	62	148
134	1	6	5	10	245	1294	806	32	67	175
135	1	6	7	8	235	1264	728	32	38	214
136	1	6	7	9	255	1388	786	27	51	205
137	1	6	7	10	248	1344	795	31	56	233
138	1	6	8	9	236	1306	784	31	47	156
139	1	6	8	10	229	1253	793	35	52	183
61:140	1	6	9	10	248	1386	851	30	65	175
141	1	7	2	3	253	1167	589	39	50	187
142	1	7	2	4	244	1088	827	40	35	130
143	1	7	2	5	265	1184	709	33	46	164
144	1	7	2	6	256	1175	796	32	51	271
145	1	7	2	8	248	1183	740	35	33	179
146	1	7	2	9	268	1278	740	30	45	143
147	1	7	2	10	261	1243	722	35	49	189
148	1	7	3	4	230	1082	641	46	40	145
149	1	7	3	5	252	1179	523	40	51	179
61:150	1	7	3	6	242	1170	610	39	56	286
151	1	7	3	8	234	1178	555	42	38	194
152	1	7	3	9	255	1273	555	37	50	158
153	1	7	3	10	247	1238	537	42	54	204
154	1	7	4	5	242	1099	761	40	37	122
155	1	7	4	6	233	1090	848	39	42	229
156	1	7	4	8	225	1099	793	42	24	137
157	1	7	4	9	245	1194	793	37	36	101
158	1	7	4	10	238	1158	775	42	39	147
159	1	7	5	6	255	1187	730	33	53	263
61:160	1	7	5	8	247	1195	675	36	35	171
161	1	7	5	9	267	1290	675	31	47	135
162	1	7	5	10	260	1255	657	36	50	181
163	1	7	6	8	238	1186	762	35	40	278
164	1	7	6	9	253	1281	762	29	51	242
165	1	7	6	10	251	1246	744	34	55	288
166	1	7	8	9	250	1289	706	33	34	150
167	1	7	8	10	243	1254	688	38	37	196
168	1	7	9	10	263	1349	688	32	49	160
169	1	8	2	3	227	1098	538	44	44	59
61:170	1	8	2	4	222	1006	765	45	33	84
171	1	8	2	5	236	1143	695	39	41	63
172	1	8	2	6	235	1114	762	34	49	166
173	1	8	2	7	246	1203	708	33	35	124
174	1	8	2	9	239	1180	716	34	38	56
175	1	8	2	10	234	1173	716	38	46	86
176	1	8	3	4	209	988	611	53	36	82
177	1	8	3	5	224	1125	540	48	44	60
178	1	8	3	6	222	1096	607	42	52	164

Table 9. (cont'd.)

	Pedigree				Mois- ture in	Acre	Erect	Leaf	Days	Root
					grain	yield	plants	blight	to	Lodg-
					%	bu.	%	score	No.	ing
61:179	1	8	3	7	233	1185	554	42	38	121
180	1	8	3	9	226	1162	561	43	41	53
181	1	8	3	10	221	1156	561	46	49	83
182	1	8	4	5	219	1033	767	48	34	86
183	1	8	4	6	217	1004	834	43	41	189
184	1	8	4	7	228	1093	781	43	27	147
185	1	8	4	9	222	1070	788	44	31	79
186	1	8	4	10	217	1063	788	47	39	109
187	1	8	5	6	232	1141	764	37	49	168
188	1	8	5	7	243	1230	710	37	35	125
189	1	8	5	9	236	1207	718	38	39	58
61:190	1	8	5	10	231	1200	718	41	47	88
191	1	8	6	7	241	1201	777	32	43	229
192	1	8	6	9	234	1178	784	33	46	161
193	1	8	6	10	229	1171	784	36	54	191
194	1	8	7	9	245	1267	731	32	32	118
195	1	8	7	10	240	1261	731	36	40	148
196	1	8	9	10	234	1237	738	37	44	81
197	1	9	2	3	242	1172	592	42	53	103
198	1	9	2	4	237	1038	814	39	39	69
199	1	9	2	5	251	1204	733	33	50	78
61:200	1	9	2	6	252	1210	793	31	58	189
201	1	9	2	7	264	1271	681	31	43	119
202	1	9	2	8	237	1152	689	37	35	87
203	1	9	2	10	252	1213	782	32	62	97
204	1	9	3	4	223	1062	684	48	42	56
205	1	9	3	5	237	1228	603	42	53	65
206	1	9	3	6	238	1234	663	40	61	175
207	1	9	3	7	250	1295	551	39	46	105
208	1	9	3	8	223	1176	558	46	38	74
209	1	9	3	10	238	1237	652	40	65	83
61:210	1	9	4	5	233	1093	825	39	39	31
211	1	9	4	6	234	1100	885	37	47	142
212	1	9	4	7	245	1161	773	36	32	72
213	1	9	4	8	218	1042	780	43	24	40
214	1	9	4	10	234	1102	874	37	51	50
215	1	9	5	6	248	1266	804	31	58	150
216	1	9	5	7	259	1327	692	30	43	80
217	1	9	5	8	232	1208	700	37	35	49
218	1	9	5	10	248	1268	793	31	62	58
219	1	9	6	7	260	1333	752	29	52	191
61:220	1	9	6	8	233	1214	759	35	43	160
221	1	9	6	10	249	1275	853	30	70	169
222	1	9	7	8	245	1275	648	34	28	90
223	1	9	7	10	260	1336	741	29	55	99
224	1	9	8	10	233	1217	748	35	47	68
225	1	10	2	3	240	1151	544	42	62	144
226	1	10	2	4	228	1019	814	41	51	104
227	1	10	2	5	246	1065	698	37	59	98
228	1	10	2	6	247	1171	776	34	66	218
229	1	10	2	7	259	1240	637	34	50	166
61:230	1	10	2	8	234	1150	662	39	46	119
231	1	10	2	9	254	1217	755	31	65	98
232	1	10	3	4	215	1038	649	48	52	103
233	1	10	3	5	233	1085	533	44	60	97
234	1	10	3	6	234	1190	610	42	67	217
235	1	10	3	7	246	1259	471	42	51	166
236	1	10	3	8	221	1170	497	47	47	118
237	1	10	3	9	242	1237	590	38	66	98
238	1	10	4	5	221	953	803	43	49	57

Table 9. (cont'd.)

Pedigree					Mois- ture in grain	Acre yield	Erect plants	Leaf blight	Days to silk	Root Lodg- ing
					%	bu.	%	score	No.	%
61:239	1	10	4	6	222	1058	881	41	56	177
240	1	10	4	7	233	1127	742	41	40	126
241	1	10	4	8	209	1038	767	46	36	78
242	1	10	4	9	229	1105	860	37	55	58
243	1	10	5	6	240	1105	764	36	64	171
244	1	10	5	7	252	1174	625	36	48	119
245	1	10	5	8	227	1084	651	41	44	72
246	1	10	5	9	247	1151	744	33	63	51
247	1	10	6	7	253	1279	703	34	55	240
248	1	10	6	8	228	1190	729	39	51	192
249	1	10	6	9	248	1257	822	30	70	172
61:250	1	10	7	8	239	1259	590	39	35	141
251	1	10	7	9	260	1326	683	30	54	120
252	1	10	8	9	235	1236	708	35	50	73
253	2	3	4	5	213	1017	618	48	34	258
254	2	3	4	6	215	1059	647	41	44	312
255	2	3	4	7	226	1075	637	43	26	265
256	2	3	4	8	200	1006	587	48	20	136
257	2	3	4	9	215	1080	640	45	29	180
258	2	3	4	10	214	1059	592	46	38	221
259	2	3	5	6	227	1125	622	42	53	331
61:260	2	3	5	7	238	1141	612	44	36	283
261	2	3	5	8	212	1072	562	49	30	155
262	2	3	5	9	227	1147	616	46	39	199
263	2	3	5	10	226	1125	568	47	48	240
264	2	3	6	7	240	1184	641	37	45	337
265	2	3	6	8	214	1115	591	42	39	209
266	2	3	6	9	229	1189	644	39	48	253
267	2	3	6	10	228	1167	596	40	57	294
268	2	3	7	8	226	1131	581	44	22	161
269	2	3	7	9	241	1205	635	42	30	205
61:270	2	3	7	10	240	1183	586	42	40	246
271	2	3	8	9	215	1136	584	46	25	77
272	2	3	8	10	213	1114	536	47	34	118
273	2	3	9	10	228	1189	590	44	43	162
274	2	4	3	5	214	1013	601	53	32	161
275	2	4	3	6	218	1061	619	43	48	210
276	2	4	3	7	224	1076	617	47	22	164
277	2	4	3	8	202	994	556	52	20	118
278	2	4	3	9	218	1026	604	46	26	103
279	2	4	3	10	208	1007	604	48	38	138
61:280	2	4	5	6	226	1098	761	40	48	228
281	2	4	5	7	232	1113	758	44	23	183
282	2	4	5	8	210	1031	697	49	21	137
283	2	4	5	9	226	1063	746	43	26	122
284	2	4	5	10	216	1044	746	45	38	156
285	2	4	6	7	236	1162	776	34	38	231
286	2	4	6	8	214	1080	715	39	36	185
287	2	4	6	9	230	1112	764	33	42	170
288	2	4	6	10	220	1093	764	35	54	205
289	2	4	7	8	220	1095	713	43	11	140
61:290	2	4	7	9	236	1127	762	37	16	125
291	2	4	7	10	226	1108	762	39	28	159
292	2	4	8	9	214	1045	700	43	14	79
293	2	4	8	10	205	1026	700	45	26	113
294	2	4	9	10	220	1058	749	39	32	98
295	2	5	3	4	216	1003	599	52	35	183
296	2	5	3	6	228	1138	578	43	53	252
297	2	5	3	7	240	1111	536	47	33	219
298	2	5	3	8	211	1070	522	53	28	118

Table 9. (cont'd.)

Pedigree				Mois- ture		Acre yield	Erect plants	Leaf blight	Days to silk	Root Lodg- ing
				in grain	bu.					
				%		%	score	No.	%	
61:299	2	5	3	9	226	1131	561	46	37	133
300	2	5	3	10	221	993	525	50	46	153
301	2	5	4	6	224	1108	744	40	44	252
302	2	5	4	7	236	1082	702	43	24	219
303	2	5	4	8	207	1041	688	49	19	118
304	2	5	4	9	222	1102	727	43	28	133
305	2	5	4	10	217	963	691	46	37	153
306	2	5	6	7	248	1217	681	35	42	288
307	2	5	6	8	219	1175	668	40	37	187
308	2	5	6	9	234	1236	706	34	46	202
309	2	5	6	10	229	1098	670	38	55	222
61:310	2	5	7	8	231	1149	626	44	17	155
311	2	5	7	9	246	1210	664	38	26	170
312	2	5	7	10	241	1071	628	41	35	189
313	2	5	8	9	217	1169	650	43	21	69
314	2	5	8	10	212	1030	615	47	30	88
315	2	5	9	10	227	1091	653	41	39	103
316	2	6	3	4	216	1032	631	45	44	233
317	2	6	3	5	224	1119	592	46	46	253
318	2	6	3	7	234	1156	632	43	36	287
319	2	6	3	8	212	1094	598	45	34	182
61:320	2	6	3	9	230	1191	630	42	44	205
321	2	6	3	10	225	1151	612	45	51	234
322	2	6	4	5	222	1095	748	40	43	248
323	2	6	4	7	232	1132	788	36	33	281
324	2	6	4	8	210	1071	754	38	31	177
325	2	6	4	9	228	1168	785	35	41	199
326	2	6	4	10	223	1128	768	38	48	228
327	2	6	5	7	240	1219	749	37	36	302
328	2	6	5	8	218	1157	715	39	33	197
329	2	6	5	9	236	1254	746	37	43	220
61:330	2	6	5	10	231	1214	729	40	51	249
331	2	6	7	8	228	1194	755	36	23	231
332	2	6	7	9	245	1291	786	33	33	253
333	2	6	7	10	240	1251	769	36	41	283
334	2	6	8	9	224	1230	752	35	31	149
335	2	6	8	10	219	1190	735	38	38	178
336	2	6	9	10	236	1287	766	36	48	200
337	2	7	3	4	224	1067	594	47	24	212
338	2	7	3	5	238	1112	516	48	32	246
339	2	7	3	6	236	1176	598	41	42	312
61:340	2	7	3	8	226	1118	566	46	22	182
341	2	7	3	9	244	1186	539	43	30	177
342	2	7	3	10	239	1155	495	47	37	224
343	2	7	4	5	231	1088	679	43	21	242
344	2	7	4	6	228	1151	761	36	31	308
345	2	7	4	8	218	1094	729	41	11	178
346	2	7	4	9	236	1162	702	38	19	173
347	2	7	4	10	231	1131	658	42	26	221
348	2	7	5	6	242	1196	682	37	39	342
349	2	7	5	8	232	1139	651	42	19	212
61:350	2	7	5	9	250	1207	624	39	28	207
351	2	7	5	10	245	1175	579	43	34	254
352	2	7	6	8	229	1202	733	35	29	278
353	2	7	6	9	247	1270	706	32	37	273
354	2	7	6	10	242	1239	661	36	44	321
355	2	7	8	9	238	1213	675	37	17	143
356	2	7	8	10	233	1181	630	41	24	190
357	2	7	9	10	251	1249	603	38	32	185
358	2	8	3	4	204	973	564	54	20	148

Table 9. (cont'd.)

	Pedigree				Mois- ture in	Acre	Erect	Leaf	Days	Root
					grain	yield	plants	blight	to	lodg-
					%	bu.	%	score	No.	%
61:359	2	8	3	5	211	1058	533	56	25	127
360	2	8	3	6	215	1102	594	45	38	190
361	2	8	3	7	227	1106	597	48	20	164
362	2	8	3	9	216	1075	546	49	22	72
363	2	8	3	10	213	1073	519	52	33	104
364	2	8	4	5	207	1021	685	51	18	206
365	2	8	4	6	212	1065	746	40	30	268
366	2	8	4	7	224	1068	749	43	13	243
367	2	8	4	9	212	1038	698	45	14	151
368	2	8	4	10	210	1036	671	47	25	183
369	2	8	5	6	219	1150	716	42	36	247
61:370	2	8	5	7	231	1154	718	45	18	222
371	2	8	5	9	219	1123	667	46	20	130
372	2	8	5	10	216	1121	640	49	31	161
373	2	8	6	7	235	1197	780	34	30	284
374	2	8	6	9	224	1167	728	35	32	192
375	2	8	6	10	221	1165	702	38	43	224
376	2	8	7	9	236	1170	731	39	14	167
377	2	8	7	10	233	1168	704	41	25	198
378	2	8	9	10	221	1138	653	43	27	106
379	2	9	3	4	218	1047	637	48	25	123
61:380	2	9	3	5	224	1161	595	50	34	131
381	2	9	3	6	231	1240	650	42	47	201
382	2	9	3	7	244	1215	594	45	28	148
383	2	9	3	8	214	1117	570	50	22	61
384	2	9	3	10	230	1154	610	46	48	104
385	2	9	4	5	221	1082	742	41	23	151
386	2	9	4	6	229	1161	797	34	37	221
387	2	9	4	7	241	1136	741	37	17	168
388	2	9	4	8	211	1037	717	41	11	81
389	2	9	4	10	227	1075	757	38	37	123
61:390	2	9	5	6	235	1275	756	35	45	230
391	2	9	5	7	247	1250	700	38	26	177
392	2	9	5	8	218	1152	676	43	19	90
393	2	9	5	10	233	1189	715	39	46	132
394	2	9	6	7	254	1329	755	31	39	247
395	2	9	6	8	225	1231	730	35	33	160
396	2	9	6	10	240	1268	770	32	59	202
397	2	9	7	8	237	1206	675	38	14	107
398	2	9	7	10	253	1243	714	35	40	149
399	2	9	8	10	223	1145	690	39	34	62
61:400	2	10	3	4	210	1023	602	49	36	170
401	2	10	3	5	220	1018	525	52	41	164
402	2	10	3	6	228	1196	598	44	53	243
403	2	10	3	7	240	1180	515	48	33	209
404	2	10	3	8	213	1110	508	51	31	106
405	2	10	3	9	231	1150	575	45	46	116
406	2	10	4	5	209	941	720	46	33	177
407	2	10	4	6	217	1119	793	38	45	256
408	2	10	4	7	229	1103	710	41	25	222
409	2	10	4	8	202	1033	704	44	23	119
61:410	2	10	4	9	220	1073	770	38	39	130
411	2	10	5	6	227	1114	716	41	51	250
412	2	10	5	7	239	1098	633	44	31	216
413	2	10	5	8	212	1028	627	47	28	113
414	2	10	5	9	230	1068	693	41	44	123
415	2	10	6	7	247	1276	706	36	43	295
416	2	10	6	8	220	1206	699	39	40	192
417	2	10	6	9	238	1246	766	33	56	203
418	2	10	7	8	232	1190	617	43	20	158

Table 9. (cont'd.)

Pedigree				Mois-	Acre	Erect	Leaf	Days	Root-	
				ture						in
				%	bu.	%	score	No.	%	
61:419	2	10	7	9	250	1229	683	37	36	168
420	2	10	8	9	223	1160	677	40	34	65
421	3	4	5	6	215	1090	667	45	49	237
422	3	4	5	7	223	1125	630	47	29	216
423	3	4	5	8	203	1031	600	54	25	153
424	3	4	5	9	217	1105	673	49	30	127
425	3	4	5	10	209	1081	638	49	41	174
426	3	4	6	7	224	1155	663	40	38	266
427	3	4	6	8	203	1060	632	47	34	203
428	3	4	6	9	217	1134	705	42	39	177
429	3	4	6	10	209	1110	670	42	50	224
61:430	3	4	7	8	211	1095	595	50	14	182
431	3	4	7	9	225	1169	668	44	19	156
432	3	4	7	10	217	1145	633	45	30	204
433	3	4	8	9	205	1074	638	51	15	93
434	3	4	8	10	196	1051	603	52	26	140
435	3	4	9	10	210	1125	676	46	31	114
436	3	5	4	6	211	1110	653	46	42	239
437	3	5	4	7	225	1104	576	47	28	231
438	3	5	4	8	198	1050	593	55	21	113
439	3	5	4	9	211	1153	656	49	29	117
61:440	3	5	4	10	207	1010	586	51	36	149
441	3	5	6	7	236	1210	567	41	42	323
442	3	5	6	8	208	1156	585	48	35	205
443	3	5	6	9	221	1259	647	42	43	209
444	3	5	6	10	217	1116	577	45	50	241
445	3	5	7	8	222	1149	508	50	21	197
446	3	5	7	9	235	1252	570	44	29	201
447	3	5	7	10	231	1109	500	47	36	234
448	3	5	8	9	208	1198	588	52	22	83
449	3	5	8	10	204	1055	517	54	29	115
61:450	3	5	9	10	217	1158	580	48	38	119
451	3	6	4	5	213	1117	642	43	48	234
452	3	6	4	7	221	1154	662	40	37	294
453	3	6	4	8	201	1081	659	44	33	172
454	3	6	4	9	217	1219	714	42	42	183
455	3	6	4	10	213	1175	662	43	48	225
456	3	6	5	7	231	1231	621	41	42	336
457	3	6	5	8	211	1157	618	44	38	214
458	3	6	5	9	227	1295	673	42	47	225
459	3	6	5	10	223	1251	621	44	53	267
61:460	3	6	7	8	218	1195	637	42	27	273
461	3	6	7	9	234	1333	693	40	36	285
462	3	6	7	10	231	1289	641	41	42	327
463	3	6	8	9	214	1259	690	43	32	163
464	3	6	8	10	210	1215	637	45	38	205
465	3	6	9	10	226	1354	693	43	47	216
466	3	7	4	5	222	1109	573	46	26	228
467	3	7	4	6	215	1153	670	42	29	296
468	3	7	4	8	209	1103	634	47	13	173
469	3	7	4	9	225	1213	632	45	21	157
61:470	3	7	4	10	221	1177	552	47	26	217
471	3	7	5	6	231	1188	589	42	40	351
472	3	7	5	8	225	1138	553	47	24	228
473	3	7	5	9	241	1248	551	45	32	212
474	3	7	5	10	237	1212	471	47	37	272
475	3	7	6	8	218	1183	650	43	27	295
476	3	7	6	9	235	1292	647	40	35	280
477	3	7	6	10	231	1257	568	43	40	340
478	3	7	8	9	228	1242	612	46	19	157

Table 9. (cont'd.)

	Pedigree				Moi- ture in	Acres	Erect	Leaf	Days	Root
					grain	yield	plants	blight	to	lodg-
					%	bu.	%	score	No.	%
61:479	3	7	8	10	224	1207	532	48	24	217
480	3	7	9	10	241	1316	530	46	32	201
481	3	8	4	5	198	1042	579	54	23	192
482	3	8	4	6	200	1067	655	46	28	256
483	3	8	4	7	213	1090	623	48	16	255
484	3	8	4	9	201	1089	627	51	16	135
485	3	8	4	10	200	1082	565	52	25	179
486	3	8	5	6	208	1142	622	47	36	256
487	3	8	5	7	222	1166	590	48	24	255
488	3	8	5	9	210	1165	594	52	24	135
489	3	8	5	10	209	1158	532	53	33	179
61:490	3	8	6	7	223	1190	666	40	30	319
491	3	8	6	9	211	1189	670	44	30	199
492	3	8	6	10	210	1182	608	45	39	243
493	3	8	7	9	225	1213	638	45	18	198
494	3	8	7	10	223	1206	576	46	27	243
495	3	8	9	10	212	1205	580	50	26	122
496	3	9	4	5	212	1103	637	44	28	137
497	3	9	4	6	216	1163	706	40	35	208
498	3	9	4	7	230	1158	616	41	21	180
499	3	9	4	8	202	1047	622	47	13	76
61:500	3	9	4	10	217	1121	651	43	37	120
501	3	9	5	6	224	1267	662	40	46	238
502	3	9	5	7	238	1263	572	42	32	210
503	3	9	5	8	210	1151	578	48	24	106
504	3	9	5	10	225	1226	607	43	48	150
505	3	9	6	7	242	1322	641	37	39	282
506	3	9	6	8	214	1211	647	43	31	177
507	3	9	6	10	229	1286	676	39	55	221
508	3	9	7	8	228	1206	557	45	17	149
509	3	9	7	10	243	1281	586	40	42	193
61:510	3	9	8	10	215	1170	592	46	33	89
511	3	10	4	5	200	962	615	49	38	153
512	3	10	4	6	204	1121	702	44	43	244
513	3	10	4	7	218	1125	584	46	29	234
514	3	10	4	8	192	1043	609	50	25	114
515	3	10	4	9	209	1124	699	44	40	114
516	3	10	5	6	217	1106	623	46	51	259
517	3	10	5	7	231	1110	505	48	37	249
518	3	10	5	8	205	1028	529	52	33	129
519	3	10	5	9	221	1109	620	46	48	129
61:520	3	10	6	7	235	1269	592	43	42	330
521	3	10	6	8	209	1187	616	47	38	210
522	3	10	6	9	225	1268	707	41	53	210
523	3	10	7	8	223	1190	499	49	24	200
524	3	10	7	9	239	1271	590	43	39	200
525	3	10	8	9	213	1189	614	48	35	80
526	4	5	6	7	231	1188	703	38	35	218
527	4	5	6	8	208	1121	709	46	31	182
528	4	5	6	9	222	1181	767	36	37	127
529	4	5	6	10	210	1041	745	41	47	153
61:530	4	5	7	8	216	1113	640	50	10	176
531	4	5	7	9	230	1174	697	40	15	121
532	4	5	7	10	218	1033	675	44	25	147
533	4	5	8	9	207	1107	704	48	11	85
534	4	5	8	10	195	967	682	52	22	111
535	4	5	9	10	209	1027	739	42	27	56
536	4	6	5	7	225	1203	767	41	29	235
537	4	6	5	8	209	1116	753	45	28	195
538	4	6	5	9	225	1212	803	39	35	148

Table 9. (cont'd.)

Pedigree				Mois- ture		Acre yield bu.	Erect plants %	Leaf blight score	Days to silk No.	Root Lodg- ing %
				in grain						
61:539	4	6	5	10	213	1170	799	43	43	183
540	4	6	7	8	213	1159	769	41	16	252
541	4	6	7	9	229	1255	820	35	22	204
542	4	6	7	10	217	1213	816	39	31	240
543	4	6	8	9	214	1168	806	40	21	165
544	4	6	8	10	202	1127	802	43	30	200
545	4	6	9	10	218	1223	852	37	36	153
546	4	7	5	6	231	1161	727	40	35	248
547	4	7	5	8	223	1097	688	48	14	210
548	4	7	5	9	240	1165	681	42	19	135
549	4	7	5	10	228	1131	649	46	27	189
61:550	4	7	6	8	218	1148	774	41	24	272
551	4	7	6	9	235	1215	767	34	28	197
552	4	7	6	10	223	1182	735	39	36	251
553	4	7	8	9	228	1151	728	42	8	159
554	4	7	8	10	216	1118	697	46	16	213
555	4	7	9	10	233	1185	689	40	21	138
556	4	8	5	6	208	1115	761	45	31	153
557	4	8	5	7	216	1138	736	48	11	155
558	4	8	5	9	209	1081	724	49	11	58
559	4	8	5	10	199	1077	710	52	23	96
61:560	4	8	6	7	219	1168	802	37	23	213
561	4	8	6	9	212	1112	789	38	23	116
562	4	8	6	10	202	1108	776	41	35	154
563	4	8	7	9	220	1134	765	41	3	118
564	4	8	7	10	210	1130	751	44	16	156
565	4	8	9	10	203	1074	739	44	15	59
566	4	9	5	6	224	1240	801	39	41	136
567	4	9	5	7	232	1234	718	42	19	110
568	4	9	5	8	208	1110	713	48	14	88
569	4	9	5	10	216	1145	786	42	39	66
61:570	4	9	6	7	238	1300	776	35	32	176
571	4	9	6	8	214	1176	772	41	27	154
572	4	9	6	10	221	1211	844	34	52	133
573	4	9	7	8	222	1170	689	44	6	128
574	4	9	7	10	230	1205	761	37	30	106
575	4	9	8	10	206	1081	757	44	25	84
576	4	10	5	6	216	1079	761	44	46	156
577	4	10	5	7	224	1082	651	48	24	149
578	4	10	5	8	203	987	664	53	23	111
579	4	10	5	9	220	1026	750	43	35	51
61:580	4	10	6	7	230	1247	728	40	36	224
581	4	10	6	8	209	1152	741	45	35	186
582	4	10	6	9	226	1191	827	35	47	127
583	4	10	7	8	217	1154	631	49	13	179
584	4	10	7	9	234	1193	717	39	25	119
585	4	10	8	9	213	1098	730	44	24	81
586	5	6	7	8	224	1213	682	42	22	267
587	5	6	7	9	240	1338	722	36	32	249
588	5	6	7	10	232	1177	683	41	37	270
589	5	6	8	9	217	1292	756	40	28	155
61:590	5	6	8	10	209	1131	716	46	34	175
591	5	6	9	10	225	1256	756	39	43	158
592	5	7	6	8	223	1243	727	42	24	274
593	5	7	6	9	240	1340	709	35	32	229
594	5	7	6	10	232	1187	642	41	37	268
595	5	7	8	9	231	1275	678	43	15	149
596	5	7	8	10	223	1122	611	49	19	188
597	5	7	9	10	239	1219	593	42	27	143
598	5	8	6	7	231	1223	706	38	27	270

Table 9. (cont'd.)

	Pedigree				Mois- ture in	Acro yield	Erect plants	Leaf blight	Days to silk	Root Lodg- ing
					%	bu.	%	score	No.	%
61:599	5	8	6	9	216	1236	731	38	27	148
600	5	8	6	10	211	1113	682	43	36	171
601	5	8	7	9	230	1218	667	41	13	163
602	5	8	7	10	225	1094	618	46	22	186
603	5	8	9	10	210	1107	643	46	22	64
604	5	9	6	7	250	1355	681	35	36	233
605	5	9	6	8	219	1272	724	42	28	156
606	5	9	6	10	230	1216	751	37	52	150
607	5	9	7	8	233	1225	602	45	13	143
608	5	9	7	10	244	1169	628	39	37	136
609	5	9	8	10	213	1086	671	46	29	59
61:610	5	10	6	7	242	1302	632	40	39	281
611	5	10	6	8	213	1247	693	46	36	188
612	5	10	6	9	230	1315	769	36	51	159
613	5	10	7	8	228	1208	544	49	19	194
614	5	10	7	9	245	1276	619	39	35	164
615	5	10	8	9	216	1222	680	45	31	71
616	6	7	8	9	237	1336	780	34	25	229
617	6	7	8	10	230	1282	731	40	28	277
618	6	7	9	10	249	1414	706	37	37	240
619	6	8	7	9	229	1299	789	37	20	246
61:620	6	8	7	10	224	1274	759	41	28	279
621	6	8	9	10	219	1303	756	41	32	161
622	6	9	7	8	230	1270	731	36	19	219
623	6	9	7	10	244	1349	769	34	43	230
624	6	9	8	10	220	1246	791	37	37	149
625	6	10	7	8	224	1254	673	41	26	270
626	6	10	7	9	244	1357	741	35	42	248
627	6	10	8	9	222	1283	782	37	41	151
628	7	8	9	10	234	1265	593	44	16	146
629	7	9	8	10	234	1237	686	40	23	161
630	7	10	8	9	236	1266	704	39	27	145

for registration of new hybrids; namely, demonstration of superior performance in one or more important characteristics as demonstrated by tests for more than one year in more than one state. It is urged that prospective hybrids and supporting data be submitted to this committee well ahead of the annual conference meeting.

J. C. Anderson
D. Butler (Absent)
G. Gorsline
W. I. Thomas
R. G. Rothgeb, Chairman

REPORT OF THE COMMITTEE ON STALK ROT

N.E.C.I.C. Cooperative Stalk Rot Project

The cooperative project on stalk rot initiated in 1958 was continued in 1961. J. C. Anderson of New Jersey made single crosses in 1960 and sent seed for 1961 planting to C. G. Mortimore, Harrow, Canada; H. T. Stinson, Jr., New Haven, Connecticut; R. G. Rothgeb, College Park, Maryland; W. I. Thomas, University Park, Pennsylvania; and C. W. Boothroyd, Ithaca, New York. An additional plot was planted at New Brunswick, New Jersey.

Short season and long season material was included and data were taken primarily for standability performance in line with the original objective of developing stiff-stalked hybrids for use in the northeast from several of the best inbreds available. Data on number of days to mid-silk, grain moisture at harvest, and yield were included at most of the locations. Additional data, e.g., that for plant height, lodging, *Helminthosporium* blight, ear rot, bird damage, and rating as a seed parent, were taken at the discretion of the individual cooperators. Sugar readings only were taken for single cross hybrids planted at Connecticut.

Stalk rot data for the short season inbreds and hybrids are summarized in table 10, and similar data for the long season hybrids in table 11. All combination crosses of the 6 inbreds used were compared on the basis of percentage stalk rot appearing at harvest at each of the locations. A ranking of these inbreds as they contributed to standability in the crosses is given in table 12. A ranking of the same inbreds on the basis of grain moisture in crosses between these inbreds is given in table 13. Data from which the moisture rankings were obtained are presented in table 14. Summary data for mid-silk dates and yields at the locations are given in tables 15 and 16, respectively.

Table 10. Stalk rot at harvest in corn (short season selections) at 5 locations, N.E.C.I.C. Cooperative Test, 1961.

Inbred or Single cross	Harrow, Can.	Md.	Pa.	N.J.	N.Y.	Ave.
	%	%	%	%	%	%
Oh51A	78	23	-	82	28	53
Oh51AxJ48	8	0	11	23	0	8
xPa32	15	10	4	42	0	14
xW153R	4	1	10	16	0	6
xW37A	46	11	-	57	0	29
xOh43	1	14	6	56	0	15
J48	46	0	-	81	45	43
J48xPa32	39	1	21	47	5	23
xW153R	18	1	16	43	0	16
xW37A	68	11	29	62	7	35
xOh43	16	0	11	49	0	19
xOh51A	8	0	11	23	0	8
Pa32	76	62	21	31	70	60
Pa32xW153R	31	32	7	27	0	19
xW37A	32	51	24	81	53	48
xOh43	28	6	-	40	0	19
xOh51A	15	10	4	42	0	14
xJ48	39	1	21	47	0	22
W153R	63	43	-	37	0	36
W153RxW37A	10	5	23	50	0	18
xOh43	4	0	12	46	0	12
xOh51A	4	1	10	16	0	6
xJ48	18	1	16	43	0	16
xPa32	31	32	7	27	0	19
W37A	77	42	-	25	71	71
W37AxOh43	36	14	12	92	0	31
xOh51A	46	11	-	57	0	29
xJ48	68	11	29	62	7	35
xPa32	32	51	24	81	53	48
xW153R	10	5	23	50	0	18
Oh43	13	2	-	17	0	10
Oh43xOh51A	1	14	6	56	0	15
xJ48	16	0	11	49	0	15
xPa32	28	6	-	40	0	19
xW153R	4	0	12	46	0	12
xW37A	36	14	12	92	0	31

Table 11. Stalk rot at harvest in corn (long season selections) at 5 locations, N.E.C.I.C. Cooperative Test, 1961.

Inbred or Single cross	Md.	Pa.	N.J.	N.Y.	Ave.
	%	%	%	%	%
C103	0	2	47	1	13
C103x38-11	0	68	99	0	42
x07	0	35	84	0	30
xPa881P	0	41	90	0	33
xWf9	6	42	90	0	35
xPa70	0	30	69	0	25
38-11	1	25	35	0	15
38-11x07	3	47	85	0	34
xPa881P	3	66	93	0	41
xWf9	11	67	97	0	44
xPa70	1	46	62	0	27
xC103	0	68	99	0	42
07	0	7	26	2	9
07xPa881P	0	34	65	34	33
xWf9	0	26	69	1	24
xPa70	0	24	25	0	12
xC103	0	35	84	0	30
x38-11	3	47	85	0	33
Pa881P	3	13	72	95	46
Pa881PxWf9	1	73	97	0	43
xPa70	0	40	46	0	22
xC103	0	41	90	0	33
x38-11	3	66	93	0	41
x07	0	34	65	34	33
Wf9	8	17	16	2	13
Wf9xPa70	5	56	47	0	27
xC103	6	42	90	0	35
x38-11	11	67	97	0	44
x07	0	26	69	1	24
xPa881P	1	73	97	0	43
Pa70	2	7	26	0	9
Pa70xC103	0	30	69	0	25
x38-11	1	46	62	0	27
x07	0	24	25	0	12
xPa881P	0	40	46	0	22
xWf9	5	56	47	0	27

Table 12. Ranking of corn inbreds on basis of stalk rot at harvest in all-combination single crosses made from these inbreds, N.E.C.I.C. Cooperative Project, 1961.

Short season inbreds	Harrow, Can.	Md.	Pa.	N.J.
Oh51A	0.35*	3.10	0.00	0.66
W153R	0.00	3.23	3.38	0.00
Oh43	1.25	2.56	0.09	6.18
J48	6.48	0.00	6.82	2.55
Pa32	6.15	10.00	2.43	2.70
W37A	10.00	8.99	10.00	10.00

Long season

Pa70	-	-	2.28	0.00
Oh07	-	-	0.00	4.22
C103	-	-	3.52	9.79
Pa881P	-	-	6.68	7.60
Wf9	-	-	8.20	6.79
38-11	-	-	10.00	10.00

* 0 = lowest, 10 = highest amount of stalk rot at harvest.

Table 13. Ranking of corn inbreds on basis of grain moisture at harvest in all-combination single crosses made from these inbreds, N.E.C.I.C. Cooperative Project, 1961.

Short season inbreds	Harrow, Can.	Md.	Pa.	N.J.
Oh51A	4.61*	4.60	6.10	7.13
W153R	3.07	3.30	1.20	5.31
Oh43	8.07	6.70	8.20	4.01
J48	10.00	10.00	10.00	10.00
Pa32	0.00	0.00	1.50	0.25
W37A	1.15	1.41	0.00	0.00

Long season

Pa70	-	1.73	7.03	3.44
Oh07	-	1.51	0.00	0.00
C103	-	10.00	10.00	10.00
Pa881P	-	2.16	0.37	2.19
Wf9	-	0.00	2.96	1.25
38-11	-	1.08	3.33	8.13

* 0 = lowest, 10 = highest amount of moisture in grain at harvest.

Table 14. Moisture at harvest of grain from single cross corn hybrids grown at 5 locations, N.E.C.I.C. Cooperative Project, 1961.

<u>Short season</u> <u>single crosses</u>	Harrow, Can.	Md.	Pa.	N.J.	N.Y.
Oh51AxJ48	23.9	22.9	25.1	35.7	45.0
xPa32	15.5	16.5	21.0	24.1	-
xW153R	19.2	16.7	19.5	31.1	-
xW37A	16.1	17.4	-	25.0	38.0
xOh43	20.6	19.9	23.0	30.4	41.0
J48xPa32	18.9	18.3	21.3	29.8	45.0
xW153R	20.3	22.5	22.0	34.3	43.0
xW37A	19.6	19.2	22.2	27.7	40.0
xOh43	26.9	24.7	26.9	29.9	48.0
Pa32xW153R	15.1	16.1	20.7	21.3	39.0
xW37A	15.5	15.8	18.6	20.0	32.0
xOh43	18.7	16.9	21.8	24.8	40.0
W153RxW37A	16.9	16.4	19.0	25.1	40.0
xOh43	19.9	19.9	21.7	27.8	43.0
W37AxOh43	18.3	18.3	21.1	21.4	40.0
<u>Long season</u>					
C103x38-11	-	25.7	21.4	36.5	50.0
x07	-	28.0	21.2	34.6	48.0
xPa881P	-	27.0	22.2	36.0	50.0
xWf9	-	24.6	21.2	37.4	50.0
xPa70	-	25.7	24.6	33.6	51.0
38-11x07	-	21.9	20.3	34.0	48.0
xPa881P	-	21.3	20.0	35.4	49.0
xWf9	-	21.1	20.4	35.1	46.0
xPa70	-	20.4	19.3	33.8	47.0
07xPa881P	-	22.8	17.1	30.1	44.0
xWf9	-	19.6	18.5	29.7	49.0
xPa70	-	19.4	19.9	33.8	46.0
Pa881PxWf9	-	19.1	18.3	29.7	47.0
xPa70	-	23.0	20.0	34.3	45.0
Wf9xPa70	-	23.4	22.8	32.1	47.0

Table 15. Number of days to mid-silk for single cross corn hybrids grown at 5 locations, N.E.C.I.C. Cooperative Project, 1961.

Short season single crosses	Harrow, Can.	Md.	Pa.	N.J.	N.Y.
Oh51AxJ48	73	61	80	74	72
xPa32	69	60	77	70	72
xW153R	72	62	77	71	72
xW37A	72	59	-	71	72
xOh43	73	62	80	72	72
J48xPa32	71	58	78	70	72
xW153R	71	61	79	70	72
xW37A	72	59	79	72	72
xOh43	73	62	80	72	74
Pa32xW153R	68	59	79	67	72
xW37A	68	61	74	67	72
xOh43	70	58	78	69	72
W153RxW37A	69	61	77	69	72
xOh43	73	61	79	70	72
W37AxOh43	71	64	78	70	72
Long season					
C103x38-11	-	74	84	80	80
x07	-	76	81	79	77
xPa881P	-	73	81	78	77
xWf9	-	72	81	77	80
xPa70	-	73	82	78	77
38-11x07	-	74	85	81	80
xPa881P	-	71	80	76	74
xWf9	-	71	81	77	77
xPa70	-	75	83	79	76
07xPa881P	-	74	81	77	77
xWf9	-	71	81	78	80
xPa70	-	73	82	78	77
Pa881PxWf9	-	74	81	77	77
xPa70	-	71	80	78	74
Wf9xPa70	-	72	81	78	77

Table 16.. Yield in bu/A of single crosse corn hybrids grown at 5 locations, N.E.C.I.C. Cooperative Project, 1961.

<u>Short season single crosses</u>	<u>Harrow, Can.</u>	<u>Md.</u>	<u>Pa.</u>	<u>N.J.</u>	<u>N.Y.</u>
Oh51AxJ48	79	84	131	169	142
xPa32	67	67		114	-
xW153R	81	71	116	95	-
xW37A	84	79	-	116	112
xOh43	91	87	113	153	129
J48xPa32	70	62	102	107	101
xW153R	73	73	141	118	120
xW37A	87	86	109	121	128
xOh43	89	94	150	135	152
Pa32xW153R	62	61	103	54	71
xW37A	67	58	83	65	87
xOh43	78	75	80	86	98
W153RxW37A	63	73	91	69	98
xOh43	78	73	116	95	109
W37AxOh43	90	84	105	108	135
<u>Long season</u>					
Cl03x38-11	-	71	110	114	142
x07	-	89	149	131	167
xPa881P	-	95	135	115	128
xWf9	-	93	115	103	186
xPa70	-	73	141	123	129
38-11x07	-	86	124	143	206
xPa881P	-	85	96	132	129
xWf9	-	88	109	107	89
xPa70	-	80	91	155	148
07xPa881P	-	73	123	125	113
xWf9	-	82	117	138	207
xPa70	-	102	153	148	166
Pa881PxWf9	-	90	80	106	148
xPa70	-	95	110	134	198
Wf9xPa70	-	93	127	118	152

Stalk rot was most severe in the New Jersey plots, fairly heavy in the short season plot at Harrow, Canada and in the long season plot in Pennsylvania, moderate in Maryland, and very light in the New York plots. Oh51A and 153R showed poor standability as inbreds, but single crosses made with either of these inbreds stood very well in areas where stalk rot was a real problem. W37A was a consistently poor performer. Oh43, J48, and Pa32 were intermediate in reaction: Oh43 behaving well at all locations except in New Jersey, J48 looking well except in Pennsylvania, and Pa32 performing fairly well in Pennsylvania but not in other areas.

Inbreds in the long season plots could be compared only for Pennsylvania and New Jersey because of scarcity of stalk rot in the other areas. Pa70 contributed toward excellent standability in New Jersey and did well in Pennsylvania. Oh07 was a good inbred for crosses at both locations. 38-11 did very poorly in hybrids at both places, while Cl03, Pa881P, and WF9 were intermediate in reaction.

There was no apparent inverse relationship between grain moisture and stalk rot incidence at harvest, i.e., the drier the grain, the earlier the maturity and the greater the stalk rot. Hybrids made with W37A fitted this pattern, but other hybrids, in both short and long season groups, varied considerably in this respect at the different locations. It was evident that Pa32 and W37A in the short season group, and Oh07 and WF9 in the long season group, contributed earliness to the hybrids; while J48 in the short, and Cl03 in the long season group contributed toward late maturity.

No striking differences were evident in days to mid-silk or in yield for the single crosses at any one location, although there were differences in both factors between locations as might be expected. Differences between hybrids with respect to other factors considered, e.g., plant height, lodging, blight, etc., were noted, but these differences were not great enough to be considered in a critical evaluation of the inbreds. There was a marked difference in sugar content of stalks with and without ears in the plots at Connecticut. Sugar content of stalks on which ear shoots had been bagged to prevent pollination averaged almost 3 times that for stalks of the same hybrids left unbagged. There was very little difference between sugar content of short and long season hybrids, and no appreciable difference between hybrids within each group.

Results to date on this cooperative stalk rot project indicate that it has been worthwhile. Several inbreds have been found to contribute to good stalk standability in a single cross hybrid on a regional basis; others have been shown to contribute to poor standability. It should be possible to predict potential stalk standability in additional hybrids containing these inbreds. Testing on a regional basis has emphasized the fact that some inbreds of promise in local areas behave erratically in other areas. This does not minimize the potential of such inbreds in a search for stalk rot resistant synthetics in these local areas.

The cooperative stalk rot project will be continued for at least one more year on a regional basis. Seed for this was prepared by New Jersey in 1961. Oh26 was included in this test. The project will then be continued on a local basis, individuals concerned adding inbreds of promise to the program and making additional crosses at their discretion. At a later date it is hoped that the project may be re-evaluated on a regional basis to see if additional inbreds of promise locally may be useful in other areas.

The above type of project is based upon a cooperative exchange of the best knowledge available about stalk standability. It is recognized by the cooperators that we must learn more about the basic nature of stalk rot and stalk standability before any rapid strides toward development of corn with excellent standability qualities can be achieved.

Proposed Cooperative Regional Project on Stalk Rot

A proposal for a cooperative regional project on stalk rot was prepared in March 1961 and submitted to the Committee of Northeast Directors on Regional Research. The objective of this project was "to study the relationship of the physiology of the corn plant to initiation and development of the stalk and root rot disease."

Notification was received that this proposal was given a No. 3 priority by the Committee under date of May 11, 1961.

The present committee plans to revise and re-submit the proposal to the Directors in 1962.

J. C. Anderson
M. W. Johnson
J. L. Peterson
R. G. Rothgeb
C. C. Wernham
C. W. Boothroyd, Chairman

It was MOVED that the Committee on Stalk Rots be requested to revise and resubmit this regional project to Director H. R. Fortmann for consideration by the Northeast Directors at their August 1962 meeting.

MOTION PASSED

REPORT OF THE COMMITTEE ON POLLINATING SUPPLIES

One hundred and fifty one thousand bassel bags were distributed in 1961 among five conference members, plus the Pennsylvania Foundation Seed Cooperative. The specifications of these bags were: 7" x 4 3/4" x 15 1/2" Kraft Simplex, 40# wet strength bags, sealed with waterproof adhesive throughout.

The purchase was made from the Union Bag-Camp Paper Corp., at a price of \$7.67 per thousand.

The committee is arranging the cooperative purchase of ear shoot bags for 1962. Eight conference members and one non-member have expressed interest.

M. W. Johnson
D. L. Matthews, Chairman

REPORT OF THE COMMITTEE ON INBRED RELEASE POLICY

Established policies are fulfilling current needs and no further report was submitted.

REPORT OF THE COMMITTEE ON PRESERVATION OF OPEN-POLLINATED VARIETIES

No report was presented.

REPORT OF THE COMMITTEE ON NOMENCLATURE OF CYTOPLASMIC STERILITY

No report was presented.

REPORT OF THE COMMITTEE ON CORN SILAGE RESEARCH

A summary of silage research conducted in 1961, listed under several broad areas or types of research, is as follows:

1. Evaluation of varieties for silage within maturity groupings.

All cooperating agencies in the NECIC are conducting such trials, generally at plant populations quite similar to those used for grain production. The details of experimentation vary from plot yield reports to separation of ear, stalk, and leaf components and detailed chemical analysis of each plant part.

2. Management for optimum production.

Included are population studies, fertilizer treatment response, drill, inter-row and row planting, time of harvest, maturity of material, etc. Pennsylvania completed an experiment using four dates of harvest-mid-silk, 15, 30, 45 days after mid-silk; four populations - 25,000, 50,000, 100,000 and 200,000 plants per acre; and four hybrids - Pa 290, Pa 475, Pa 602A, and US 13. Significant differences in dry weight and green weight were observed between cutting dates, and between populations. Differences between hybrids were non-significant in spite of rather wide maturity differences. The cutting date x population interaction was highly significant for both dry weight and green weight. For the cutting at mid-silk, maximum dry matter was obtained at 200,000 plants per acre. For silage harvested 45 days later, maximum yield was obtained at 50,000 plants. With mechanical harvesting procedures, maximums were reached at 25,000 plants because of losses due to lodging at higher populations.

Chemical estimates of percent TDN on similar plant populations grown in 1960 indicate no significant differences in percent TDN of plant populations ranging from 12,000 to 192,000 plants per acre. However, percent crude fiber and protein increased; percent ether extract decreased as populations increased.

New York found an increase in silage production by split-row planting to double plant population from 25,000 to 50,000 plants per acre. Grain yield also increased, with ear weight comprising more than half the total yield. Virtually no barren stalks were present at either population.

The Cooperative Corn Research Project evaluated drilled corn at two populations, three cutting dates, and with four differing maturity hybrids. Early harvest was indicated to prevent losses due to lodging, and early varieties tended to outyield later ones at the earlier dates of harvest. A more detailed report is included elsewhere in the minutes of the conference.

3. Yield and silage quality of corn "Hay" vs. well-eared silage.

New Jersey compared in detail the growth and yield potential of two single-crosses grown with and without ears. At a population of about 10,000 plants per acre, the "earless" treatment effected yield losses of 25 percent or more. The experiment is described in detail in the minutes.

Pennsylvania tested HS 50 with a hybrid of similar maturity. Both were grown with grain and with grain formation inhibited. There were no differences between the hybrids when treated the same in either percent stalk sugar or dry matter production. However, refractometer readings of juice in the stalk at optimum silage stage indicated that the percent sugar in stalk juice was approximately twice as high in plants where grain formation was prevented as in plants where grain was formed.

Feeding trials conducted at Pennsylvania indicated no advantage of high sugar corn silage (pollination prevented) over conventional silage.

4. Comparison of types of corn - high oil, high sugar, flint-dent, etc. The high sugar work by Penn also applies to this grouping.

Lots of HS 50 and other hybrids of comparable maturity are available for feeding trial evaluation in New York. Data should be available this spring.

MacDonald College has begun a project on the components of yield in fodder dry matter, particularly as related to the superiority of flint-dent hybrids over dent hybrids.

5. Comparison of silage potential of corn vs. other annuals.

The CCRP reported that under drill planting corn yielded considerably better than sorghum. The poorest corn variety outyielded the best sorghum. Massachusetts indicated that sudangrass would be preferable for early harvest dates, with yields comparable to corn plus additional regrowth possibilities. Over the full season, drilled corn out yielded sudan by a marked margin but lodging of the corn presents a real harvest problem.

New York has found that drilled corn consistently out yields other annuals over the full season. For forage production about 60 days after planting, German millet or sudangrass may be preferable. Feeding trials also show that corn is the highest species for both digestibility and acceptability as drilled material harvested as "grass hay".

6. Evaluation of the artificial rumen as a technique for evaluating corn silage.

West Virginia has completed the second year of a three-year project comparing hybrids through rumen evaluation and laboratory analysis.

Indications are that stations will continue to pursue much the same sorts of research studies in 1962. Pennsylvania will be evaluating an all-combination single cross test as well as enlarging the high sugar study.

The committee requests that whenever possible the following hybrid varieties be used in silage studies to serve as a possible basis for cross comparisons.

Early hybrids - Pa. 290 and Cornell M-3

Medium hybrids - Cornell M-3 and Pa.602A

Late hybrids - Pa.602A, Conn. 870, Pa. 825 and NJ 8

L. S. Donovan

C. E. Manchester

M. W. Johnson

W. I. Thomas

R. E. Anderson, Chairman

It was MOVED that a regional project on corn silage be completed and submitted to Director H. R. Fortman for consideration of the Northeast Directors at their August 1962 meeting.

It was MOVED by Everett and seconded by Matthews that "The Executive Committee be empowered to invite a representative from G. L. F. Research Division, on an annual basis, to attend the Northeastern Corn Conference meetings in a non-voting status."

MOTION PASSED

It was MOVED that the meeting place for the 1963 meetings be left to the discretion of the Chairman and that the date for such meeting should fall within the period February 18 to February 27.

MOTION PASSED

The nominating committee submitted the name of W. I. Thomas as Vice-Chairman for 1963. There being no other nominations the secretary was instructed to cast a unanimous ballot for Dr. Thomas.

Chairman Stinson expressed his appreciation for the cooperation received during the past year. The meeting was ADJOURNED at 12:00 noon.

OFFICERS AND COMMITTEE MEMBERS, 1962-1963

Administrative Advisor

H. R. Fortman

Executive Committee

D. L. Matthews, Chairman
W. I. Thomas, Vice-Chairman
H. T. Stinson

Committee on Registration of NE Hybrids

R. G. Rothgeb, Chairman
J. C. Anderson
H. L. Everett
G. W. Gorsline
W. I. Thomas

Committee on Uniform Tests of 100-200 Maturity

W. I. Thomas, Chairman
R. M. Bailey
R. I. Brawn
L. S. Donovan
H. L. Everett

Committee on Uniform Tests of 300-500 Maturity

H. L. Everett, Chairman
G. W. Gorsline
C. E. Manchester
H. M. Yegian

Committee on Uniform Tests of 600-700 Maturity

G. W. Gorsline, Chairman
J. G. Buchert
H. T. Stinson

Committee on Uniform Tests of 800-900 Maturity

J. C. Anderson, Chairman
R. G. Rothgeb
W. I. Thomas

Committee on Pollinating Supplies

D. L. Matthews, Chairman
M. W. Johnson

Committee on Nomenclature of Cytoplasmic Sterility

H. T. Stinson, Chairman
H. L. Everett

Committee on Stalk Rot Diseases

C. W. Boothroyd, Chairman
J. C. Anderson
M. W. Johnson
J. L. Peterson
R. G. Rothgeb
C. C. Wernham

Committee on Preservation of Open-Pollinated Varieties

R. M. Bailey, Chairman

Committee on Inbred Release Policy

J. C. Anderson, Chairman
H. L. Everett
D. L. Matthews
W. I. Thomas

Committee on Corn Silage

R. Anderson, Chairman
L. L. Donovan
M. W. Johnson
C. E. Manchester
W. I. Thomas
H. M. Yegian

ROSTER OF ATTENDANCE

Canada

Brawn, R. I.
Donovan, L. S.

MacDonald College
Central Expt. Farm

Montreal
Ottawa

Connecticut

Stinson, H. T.

Agric. Expt. Station

New Haven

Delaware

Cole, R. H.

Univ. of Delaware

Newark

Maryland

Rothgeb, R. G.
Sprague, G. F.

Univ. of Maryland
ARS, USDept. of Agr.

College Park
Beltsville

Massachusetts

Buchert, J. G.
Manchester, C. E.
Matthews, D. L.
Yegian, H. M.

Coop. Corn Res. Project
" " " "
" " " "
Univ. of Massachusetts

W. Springfield
"
"
Amherst

New Jersey

Anderson, J. C.

Rutgers University

New Brunswick

New York

Anderson, R. E.
Boothroyd, C. W.
Cassalett, C.
Everett, H. L.
Jooste, W. J.
Krenzen, R. E.
Miller, R. E.
Thompson, J. C.

Cornell University
" "
" "
" "
" "
" "
" "
" "

Ithaca
"
"
"
"
"
"
"

Pennsylvania

Creech, R. G.
Fortmann, H. R.
Gorsline, G.
Thomas, W. I.

Penn State University
" " "
" " "
" " "

University Park
"
"
"

West Virginia

Johnson, M. W.

Univ. of West Virginia

Morgantown

